# Anti-Games, Fantasy Consoles, and the Rise of Speculative Game Development on Itch.io

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## Abstract

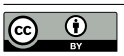
Amid the ongoing escalation of anti-worker and anti-player practices across the game industry, the creative practices of developers are shifting: jammers, students, hobbyists, fangamers, and other digital game "zinesters" [3] seek to reclaim game design as a personal art form. This paper examines the emergence and rise of speculative game design communities on itch.io—sites of ongoing creative resistance to corporate encroachment and exclusionary game culture. Specifically, the study documents the activities of "anti-game" jammers and fantasy console development communities on itch.io—two groups that create speculative games (that is, projects that are conceptual, arbitrary, and materially or procedurally unrealizable) to make space for personal play that is divested from mainstream engines, markets, and pretenses of game commodity: 1) Firstly, "anti-game" designers use game jams, zines, and Discord servers to develop and circulate not-games, games that refuse play, and games that cannot be played. These makers create provocative thought experiments, poems, manifestos, and other "unplayable" works that resist hyper-capitalist investment in bigger, longer, more graphically precise, live-service, metaversal, forever-games. 2) Simultaneously, developers on itch build projects for fantasy consoles—such as PICO-8 and Bitsy—and imagine hardware that is mutually-constituted, rooted in community, and decommodified. Ultimately, this paper argues that speculative design practices divest from concerns of "playability," center unencumbered participation, and allow developers to envision and participate in a post-capitalist imaginary of hardware, software, and play.

## CCS Concepts

• **Applied computing**; • **Computer games;**; • **Software and its engineering**; • **Interactive games;**; • **Hardware**; • **Simulation and emulation;**; • **Human-centered computing**; • **Handheld game consoles;**; • **General and reference**; • **Design; Experimentation.**;

## Keywords

Speculative game design, unplayable games, anti-games, fantasy consoles, experimental game design, itch.io



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## 1 Speculative Game Design

This study contends with emerging practices of *speculative game design*—the creation of game projects which are conceptual, arbitrary, and which cannot, materially or procedurally, be played—on itch.io. My use of "speculative" here represents the ways in which these games occupy anomalous positions as fantastic, (un)real (anti)games. Games that cannot (or should not) be played, consoles with no circuits or breadboards or drives, speculative games require that we engage these works via other means: we cannot play them, so we must imagine them, read them, not-play them, and create with and from them. On itch.io, speculative game design communities are flourishing: dozens of makers join up in experimental jams to build, solicit, and circulate "anti-games" that refuse to be played. At the same time, fantasy console developers shape their creative practice around fictive and hypothetical hardware systems. These impossible creations are more than trivial gags or niche creative challenges. As I argue here, indie game developers are turning to the speculative in their practice as a means of resisting corporate encroachment and reactionary subcultural movements within gaming culture. They are building games outside "the inconveniences" of playability, material hardware, and game culture.

The term "speculative" has been used to describe the propensity for games to encourage a critical imaginary of possible futures from players [18]. Such a framing for the speculative is, as Rouse and Holloway-Attaway suggest, drawing on the work of Donna Haraway—a kind of worldbuilding rooted in "fabulation" [52]. This is to say, games can suggest other possible futures, worlds, and imaginaries. Yet, while I am interested in how games and media art might shape our vision of the future, especially amid times of precarity, I also wish to draw attention to the ways in which speculative art practices are already being mobilized by game designers in response to ongoing challenges in game development.

This study examines the activities, discourse, and creative participation of two such speculative game design communities on itch.io: **anti-game jammers** and **fantasy console enthusiasts**. itch.io has received scholarly attention for platforming indie games by marginalized and queer developers [25] and speculative game design is implicated in these politics; I demonstrate below how these creative communities are investing in making game design

more accessible by de-centering the established values of game markets. This is to say, these makers foster creative community and incite exploration, tinkering, discovery, and development while dismissing procedural or material feasibility.

The work of speculative game design communities is easy to overlook and remains largely unexcavated in game research. Anti-games might be easily dismissed as theorycraft, marginalia, experimental fiction, or as works otherwise unremarkable, unfinished, or "broken." Likewise, even as scholars explore the potentialities of emulation for design and pedagogy [12], fantasy consoles are deemed a "fringe game craft" [39] and remain critically understudied. PICO-8 and Bitsy alike have received some attention for their use in classrooms and in hobbyist developer communities [20, 21, 39, 72]. Yet it is worth considering the cultural implications behind this shift towards anti-game jams and fantasy consoles as sites for game creation on itch.io. In the following sections, I characterize the emergence and activity of speculative game developers in each of these scenes respectively.

## 2 Anti-Game Jamming

Game jams are an established cornerstone of community practice on itch.io. As of this writing, itch.io claims that community members have hosted over 388,600 jams on the platform [28]. While for some game jams are associated with prize pools, tight deadlines, and a hackathon environment in which dozens or hundreds of developers are crowded into a small space frantically trying to finish their projects, most of the game jams on itch.io are rooted in specific community subcultures and are interested in catalyzing creativity among participants rather than competition. itch.io jams are artistic challenges for which jam hosts provide prompts, resources (like guides, free tools, demo assets), creative limitations, inspiration (including playlists, jam-specific color palettes, or reference media), as well as spaces to network, collaborate, and share with other makers (forums, Discord servers, and posts in the jam's "Community" tab).

Scholars have noted the ways in which jams on itch.io have proven to be crucial on-ramps for novice game developers [4, 9, 24]. These jams are effective catalysts for first-time makers largely because they grant new makers immediate access to creative community with shared interests, provide creative limitations and a supply of quick-start resources, and because jammer subcommunities tend to invite and reward "crap game" design. I use the term "crap game" here drawing from Anna Anthropy's *Rise of the Videogame Zinesters* in which she, in salute to the experimental jams hosted by *Glorious Trainwrecks*, argues that "games are more wonderful, more creative, and more inventive when they're thrown together around an idea with little regard for production values or painstaking creative choices" [3:110].

itch.io has long been a hub for the radical jamming practices of such zine communities—celebrating and rewarding "crap game" design and centering participation and making above all else. Beginning around 2020, and coinciding with the rise of analog game communities in digital game ecosystems [67], jammers and zinesters on itch.io have increasingly turned towards speculative game design in their practice, as illustrated by a growing number of anti-game jams. I use the term *anti-game* here to clarify that these are projects which resist and/or reject ludic interpretation or engagement at all: they are games that are not games. Anti-games exist in proximity to lyric games and game poems [37, 66], are rooted in speculative design practice, and are part of an ongoing artistic movement interested in the "unplayable" as a space for radical design practice.

In April of 2024, game writer snow facilitated the "Lost, Broken, Unplayable~" jam (Figure 1), a month-long event that tasked participants with submitting "all the lost, broken, and unplayable ideas. Everything discarded, unfinished, dreamt but never written. Word docs rusting in a dust-laden folder. Mostly-empty journals with doodles and notes. Put them here" [59]. The rules for the jam specified that the projects submitted must be titled, could be in any format, and that snow wanted all participants "to make at least one 'unplayable' game. I want this to be the pit where we cast these magic pdfs, txts, gdocs, mp3s, comics, and htmls. The pit that bubbles and boils and churns and that we can all drink from and gather inspiration" [59]. The "Lost, Broken, Unplayable~" jam garnered nearly seventy submissions, which included unfinished demoes and "autopsies" of game drafts that were never finished, spells, rituals, guides for transformation, and even a fictionalized blog post about a scrapped roleplaying videogame called *Sitzprobe Assemblage* [51]. Some of these projects were unplayable in that they simply do not run or are incomplete while others refuse, muddy, or terminate play in other ways. *Null*, submitted by thriftomancer, is intended to be used while one plays another game and includes a single rolltable, with each possible roll of the dice selecting a different game component (such as "Resolution Mechanic," "Inventory," and "Character Stats") that must be removed from the other game moving forward [65]. Much like the notorious *Game Lamprey* by kumada1 [32], which tasks players with ripping pages out of an existing roleplaying game, *Null* positions itself not as a game but a "metasystem. . . a parasite slowly eroding the structure of its host." To play *Null*, then, one must "not play" (or, ideally, remove from play) the components of other games.

Several other submissions to "Lost, Broken, Unplayable~" warn would-be players not to engage their submissions at all. *A Ritual to Open a Gate to Hell Inside Your Mind* by Personable is a roleplaying game that forbids the would-be player from playing it. The text of the game begins: "This is a game. Do not play it. This is not a game. You must play it. Perform the Ritual. You must never perform the Ritual" [43]. The project then outlines a complex ritual which involves taking or creating the replica of a past or future lover, staring directly at the sun, and bathing in blood to open the gates of hell. Likewise, *Old MacDonald Had It All* by Blake Benson provides players with a ritual in which they sing the child nursery rhyme "Old MacDonald Had a Farm" and continue adding animals and riches to the farmer's wealth endlessly in a commentary on greed and colonial capitalism. Yet Benson notes on the game's itch.io page and in the game's instructions that "this game cannot (or at least, should not) be played, lest you lose yourself to the same unending pursuit" [8]. snow's own submission to the jam, titled *Teeth*, provides guidelines for biting and bandaging one's romantic partner due to lycanthropy, and similarly forbids actual play. snow describes *Teeth* as "a game you should never play with your loved ones, the bandaids in your apartment, and sharp teeth. . ." [60]. Perhaps most strikingly, *A Game of Hide and Seek*, submitted by jonzye, presents a guide for transforming one's body through a dark

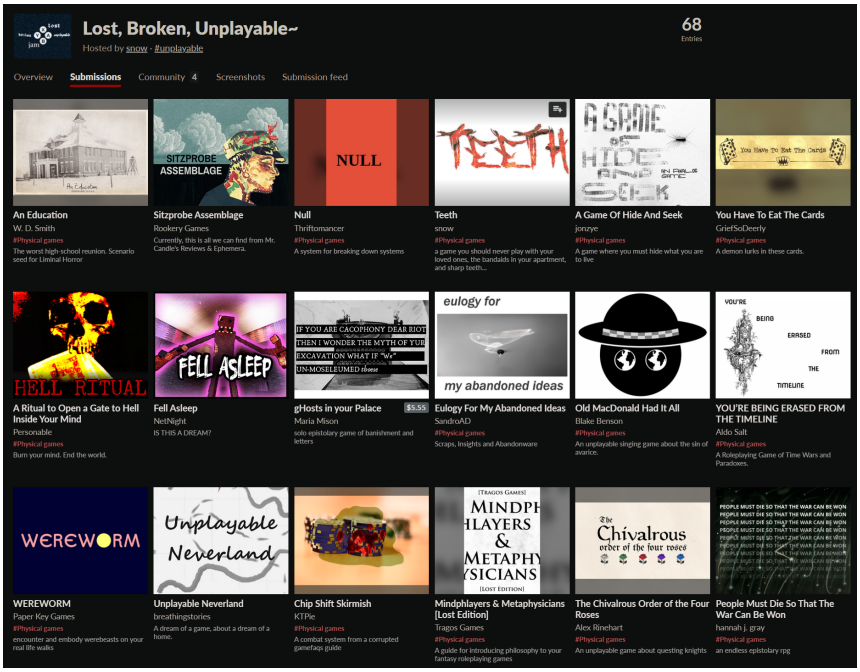


**Figure 1: Submissions to the "Lost, Broken, Unplayable~" jam run by community member snow on itch.io.**

ritual. In *Hide and Seek*, you "play" as "something else, someone else, and you can be like you as long as that you is a mockery of you and those who know you would not recognize it as you" [30]. The vague construction of this role is central to the game's escalating premise: filled with self-alienation, the player-character is prompted with tasks for (among other things) stealing the precious belongings of others, burning them, and coating themself in ashes; building a chrysalis; and following a map while avoiding discovery from "them" (the "other players"—who are framed as anyone encountered during play).

In each of the above examples, the "game" presented, however evocative in its language and/or premise, ultimately defies any ludic engagement from the would-player. As anti-games, these projects amplify their affective resonance—horror, nostalgia, kinkiness, self-alienation, discomfort, rage—by, at once, imitating and collapsing gamic forms. These anti-games simultaneously propose and forbid play and, in so doing, taunt and implicate players in their speculative project. *Hide and Seek*, exemplary among the anti-games submitted to "Lost, Broken, Unplayable~," presents a terrifying ritual that is not intended to be enacted. Rather, through its imitation of gamic form (particularly the didactic rhetoric of a game manual, colored by repeated invocations of "you will…", "you must," and "remember…") *Hide and Seek* implicates players and prompts their confrontation with self-alienation—which we can see as analogous to experiences of bodily dysmorphia, queer or trans dysphoria, neurodivergence, or another flavor of sociocultural displacement—even as it refuses their engagement through play. In the final segment of the game, titled "Coming Home," the guide for *Hide & Seek* notes:

> If you have been playing the game correctly you will begin to loose [sic] sight of what you were. The more you act against your instincts and intuition, the more your lie becomes who you are. If you loose [sic?] yourself you will keep playing forever… Finding home means following your instincts, it means acting in accordance with your wants and desires and you are not allowed to do this to play this game [9:11, emphasis original].

Of course, the player should (if following jonzye's rules) never have *started* the game to begin with. Yet, because *Hide & Seek* begins when you "become something else"—would-be players are brought to confront their own feelings and the ways in which they might, already, be playing *Hide & Seek* and consider how they might stop playing. Despite being ostensibly unplayable, *Hide & Seek* further establishes its political, affective, and personal artistic resonance through its refusal of play.

The "Lost, Broken, Unplayable~" jam is only the most recent installment in this tradition of anti-game jams. In November and December of 2020, Monkey's Paw Games hosted the "Art Is Ego Jam," which explicitly noted that participants should "Make a thought piece with unplayable mechanics. Do it in an hour or less… Don't, under any circumstances, playtest it" [38]. Submissions to the "Art Is Ego Jam" include JimIsKindaCool's *This is not art, this is a product*—a one-page Word document priced at $30 USD (but for which 10,000 free "community copies" were made available). *This is not art, this is a product* contains a few vague rules for RPG character creation, but then specifies that any other rules about how facilitate the game "belong in other PRODUCTS!" *This is not art, this is a product*, then, uses the itch.io submission form

to center its statement about artists, money, and consumerism—as JimIsKindaCool writes that the project is "catered to you, the consumers, and therefore not to my own egotistical gain" [29], even as they charge $30 for an unusable prototype. JimIsKindaCool is not the only participant in the jam whose work serves as commentary on the financial landscape of making playful media art on itch.io: J.N. Butler's *The Waiting*—a roleplaying game submitted to the jam—is (as of this writing) priced at $500 USD. In the description for the project, Butler notes that "Some have shared that they think this game is not worth $3, even though I also offer community copies for free and the preview images contain the whole game. I agree it's not worth $3 — it's now worth $500. So give me a half-k or get it free. Either way, stop complaining about people charging for their work" [11]. Butler's project then, likewise, is as much a performative statement about game art and its value than it is an interactive project.

In this same vein, from April to June of 2021, itch.io user Red hosted a small jam called "Jam Without Numbers" which told would-be participants that: "This jam is dedicated to the parts of games that aren't games. I want this to be permission to Just Write and not have to make it gameable. . .Make whatever you want, BUT it can't be a mechanic, a random table, a stat block... Nothing that's part of a game" [48]. The projects submitted to the jam include found-text fiction, pages of a spellbook, poems, recordings of dreams brought on by PTSD, a Google photos album of found text, and a recipe for spicy cabbage (which the author claims is "neither a game – nor is it a recipe for kimchi" but rather "an experience – with a delicious ending!") [73]. The "Jam Without Numbers," then, created a game jam wherein any gamic system was forbidden: opening space for designers to contribute mixed-media art.

These jams exemplify a growing trend in itch.io game jams–the creation of anti-games. These projects resist traditional interpretations of play, existing as thought experiments, critiques of the industry, or explorations of alternative forms of engagement. By refusing play, anti-games provoke emotional responses through their subversion and muddying of gamic forms. This "playful anti-play" challenges designers and would-be-players alike to confront their own desires and anxieties around games and game markets. Such anti-game jams blur the line between game and art object and question the economic structures surrounding game creation. Ultimately, anti-game jamming represents a potent form of artistic and social critique within the digital game landscape.

## 3 Fantasy Console Communities

Over the last decade, several design communities have emerged around independently created "fantasy consoles" (such as the PICO-8, Bitsy, MEG-4, Voxatron, and dozens of others) with their activity moving across itch.io, GitHub, Discord, fan zines, and dedicated community forums. Fantasy consoles are machine emulators (in that they simulate hardware limitations through software) that do not imitate extant hardware systems, but rather emulate hypothetical console hardware. Fantasy consoles represent a broad reinterpretation of retro console gaming and present creative challenges for designers and players, who must work within (or hack and modify) the arbitrary limitations of these systems.

One of the most popular fantasy consoles, **PICO-8** (Figure 2), developed by zep (Joseph White) and released in 2015, requires developers to adhere to strict limitations for computing power, sprite size, "cart" size[1], and sound channels—which the developers describe as "harsh limitations. . . chosen to be fun to work with, to encourage small but expressive designs" [75]. PICO-8 runs on the Lua programming language and provides designers with a handful of tools (sprite, sound, and map editors) and, using a command-line interface, build games within the rigid aesthetic and computational limitations of the virtual console. PICO-8's growing popularity illustrates how fantasy console communities occupy a shifting proximity to mainstream game development. In one now-famous example, game developers Maddy Thorson and Noel Berry developed a handful of incredibly successful games for PICO-8, including *Celeste Classic* before going on to create award-winning platformer *Celeste*. In other cases, developers of commercial videogames have been drawn to the fantasy console; *PICOHOT* by Tarkovsky, a "demake" of *SUPERHOT* for PICO-8, was created by members of the *SUPERHOT* team who were inspired by the challenge of reimagining their own game [44]. PICO-8's invocation of old microcomputers (from its command-line interface to its limited resources) seemingly inspires established and novice game developers alike.

Likewise, **Bitsy,** described by its developer adam le doux as "a little engine for little games, worlds, and stories" [19], is an especially prominent fantasy console for creating personal microgames, "game poems" [37], and interactive fiction. Bitsy has been celebrated as a uniquely accessible tool among indie developers and in the classroom [4, 21, 72]. Bitsy is free, open source, runs in-browser, requires little-to-no programming to get started, and the strict limitations of the API (16x16 pixel maps, 8x8 pixel sprites/tiles, and only three colors per scene) inspire creativity and level the playing field for novel designers. Bitsy games are published as .html files (i.e. static webpages), thereby enabling easy circulation on personal sites, portfolios, or itch.io, as well as integration with other tools for personal game design, including Twine, a longstanding and beloved tool for web-based game development [31, 54]. Despite the inherent limitations of Bitsy, the tool can be easily augmented with dozens of plug-and-play "hacks" hosted on GitHub [35] or integrated with Borksy—a tool for managing dozens of community-maintained Bitsy hacks [6]. An open-source tool, Bitsy has been "forked" into multiple variant tools, Bitsy HD [7], Bitsy Color [5], and Bitsy 3D [1].

Yet while scholars have attended to Bitsy's rise to prominence among jammers and in the classroom, Bitsy is likewise a fantasy console and is entangled with the community practices of other fantasy console communities. Using the label of "fantasy console" for Bitsy might be unexpected for those familiar with the tool; while PICO-8 is upfront about its status as a virtual machine in its opening tagline and is largely responsible for the popularization of the label "fantasy console," the Bitsy repository and documentation do not once use the terms "fantasy console" or "virtual machine." Bitsy does adhere to strict limitations (16x16 grids and 1-bit sprites), yet it does not link these limitations to historical hardware configurations

[1]The term "cart" or "cartridge" here is proverbial and refers to the game file itself, as there are no official PICO-8 hardware systems to plug a physical cartridge into.

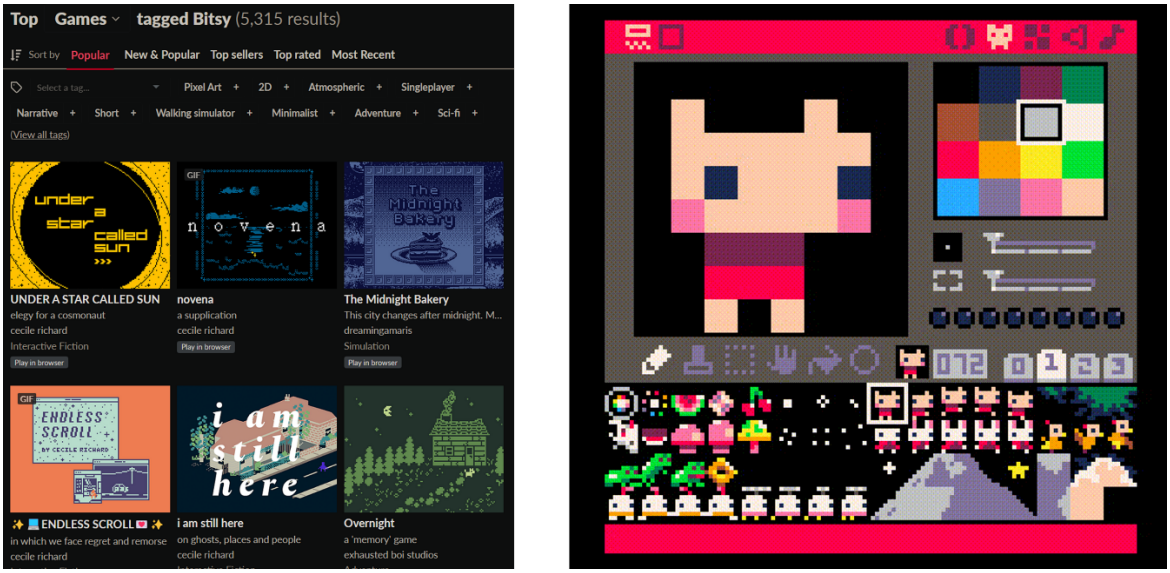


**Figure 2: Left—popular Bitsy games hosted on itch.io. Right—the sprite editor in PICO-8.**

or even pay overt rhetorical homage to retro computing at all, even as it is used to create small, 8-bit microgames.

Bitsy is indicative of the challenges of identifying fantasy consoles. Tony Wang (paladin-t)'s curated list of fantasy consoles concludes with a statement about how the list is organized and criteria about project's inclusion. Rather than define what a fantasy console *is*, Wang suggests that the list is governed, instead, by criteria for exclusion, and argues that projects are *not* fantasy consoles or computers if they fall into the following subcategories:

- "Hardware such as RaspberryPi and Gamebuino are not
- Emulators of real hardware (eg. NES, C64, DOSBox) are not
- Generic graphics libraries and game engines are not
- Programming IDEs and editors are not
- Minecraft is not" [69].

This non-definition, while vague, reveals much about the values of fantasy console communities by signaling an aversion to proprietary hardware, engines, and games. Similarly, in his introduction to the inaugural issue of *PICO-ZINE*, a fanzine created by members of the PICO-8 community, zep (Joseph White) discusses the process of arriving at the term "fantasy console"—a term he coined for the PICO-8 but which has proliferated widely since. zep notes that the term "fantasy console" did not anticipate PICO-8 but, rather, was a discovery that came from having built a community around a virtual machine platform:

> It might have been much easier if I started with the question "What would it be like to create a fictional console?" and work forwards from that. Instead I went backwards though a forest of fuzzy ideas and at the end realised: oh, these things are just consoles [56].

zep's discussion of what it was like to arrive at the term "fantasy console" reveals much about the relationship between fantasy console communities and historic hardware systems. On the one hand, fantasy consoles are emulators in conversation with virtual machines and historic hardware—on the other, they represent a bold renegotiation of what makes a console in the first place. PICO-8's website's FAQ answers the question of "What is a Fantasy Console?" (it's topmost question) with "A fantasy console is like a regular console, but without the inconvenience of actual hardware." In this sense, fantasy console developers like zep root their project in speculative design practice. The console is *fantastic*—ostensibly both wonderous and intangible.

Notably, there are other tools that exist in blurry alignment to fantasy consoles worth mentioning. Fantasy computers and other casual creation tools, even those that do not use the label of "fantasy console" may share overlapping audiences with fantasy console communities. For example, **Decker** (created by Internet Janitor) is an interactive media hypertext "sketchbook" that imitates the "ditherpunk" look of black and white internet browsers. Although Decker is not *specifically* for game design, and doesn't foreground its technical limitations as readily, it is still considered a "fantasy computer" and has an active subcommunity within the Fantasy Consoles 2.0 Discord, and Decker jams (such as the Decker Fantasy Camp annual jams) regularly attract fantasy console enthusiasts.[2] Although Wang and other fantasy console enthusiasts state that hardware systems cannot be fantasy consoles, likewise, there is significant overlap between fantasy console communities and DIY and indie handheld development scenes. Enthusiasts and manufacturers like Anbernic, Clockwork, and POWKIDDY have developed and sell handheld devices that are pre-loaded with fantasy consoles—thereby allowing one to play fantasy console games like one would on a mainstream handheld console. In fact, PICO-8 boasts on its homepage "Just Add Hardware"—noting the specifications of a Raspberry Pi (a common physical computing tool) necessary to run PICO-8 carts. Fantasy consoles, while speculative and rooted

[2]This proximity is further shaped by Internet Janitor's work on Octo (a development tool for the historic fantasy console, CHIP-8).

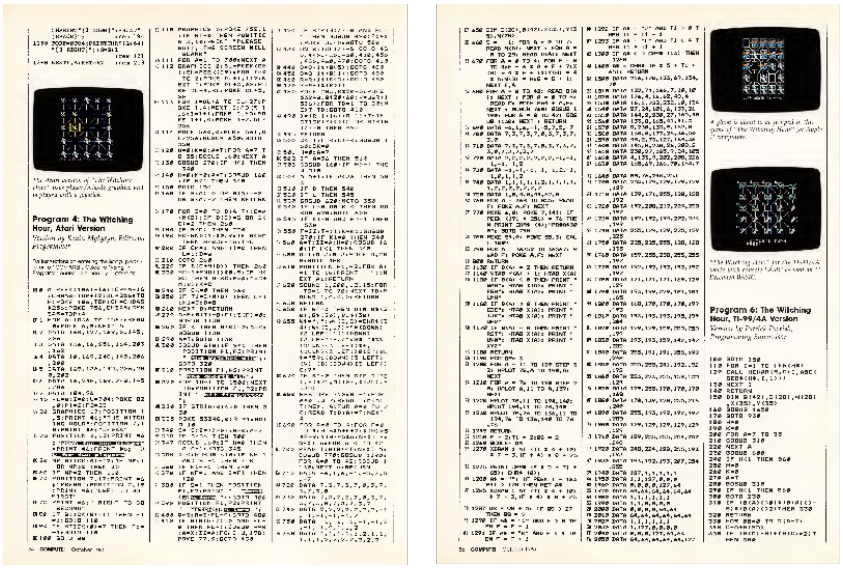


**Figure 3: A spread from *COMPUTE!* magazine's October 1985 issue. Displayed here is the code (in BASIC) for the videogame "The Witching Hour" [76].**

in microgame development traditions, seemingly vacillate in their proximity to both fantasy computing, creative coding tools, and indie hardware manufacturing.

These murky definitions reveal several key values endemic to fantasy console subcultures, namely: 1) a discursive distance and—at times—aversion to physical hardware, 2) disinterest in proprietary game engines and tools for making, and 3) a complex relationship to established subcommunities for hacking, modding, and fangaming commercial games. As I will show in the following sections, it is the vagueness of these terms that marks their utility—player-makers regularly reposition what is and is not "fantasy" to elide the grasp of industry, commodification, and potential legal trouble. Fantasy console communities have become vibrant spaces for creative game development and the ambiguity surrounding the definition of a "fantasy console" (which erodes and mutates the concept of a "console" in itself) serves as a strength, allowing creators to explore unique design possibilities while maintaining a distance from commercial constraints. This exploration extends to the ways these communities navigate issues of ownership, modification, and the creation of new experiences within the realm of digital games.

## 4 EXTENDING HISTORIES OF SHAREWARE AND ZINE CULTURE

Speculative game designers disentangle their practice from the value systems of game industries. In this way, both anti-game jams and fantasy consoles extend and reignite longstanding legacies of shareware, zine culture, and development-as-community. Early text adventure videogames, including notable titles such as *Colossal Cave Adventure* (1976) and *Zork* (1980), were published to online forums on ARPANET and circulated among networked users interested in hypertext storygames. Because these games emerged before personalized computers ushered in a wave of standardization, the act of downloading and running such games often involved significant modification and setup. In the case of *Adventure*—interactive fiction scholars have noted that the most popular and widely-played version of the game was (and remains) a "fork" (or variation) of the game created by Don Woods—who downloaded, modified, and circulated an adaptation of Will Crowther's original project [49]. In this era of digital gaming, game software was circulated as community-made shareware (generally for free) that was constantly reshaped by community members. Given the limitations of hardware and the early Internet, through the 1980s, many games were circulated as printed code in magazines like *COMPUTE!* that had to be inputted, line-by-line, by would-be players (Figure 3). Games circulated and were transposed for different systems by community members and editorial programmers. Because there existed no premise of standardization, to run a game at all was to emulate it—to rewrite the game's code, recompile, and execute it. To run a game meant rebuilding it. To play was also to tinker.

It was this legacy of shareware which spurred the first revolution in home console emulation. Nathan Altice documents extensively how the mid-90s marked an explosion of activity for NES gaming because of the arrival of console-emulation on personal computers [2]. The technical affordances of the NES platform were quickly and radically exceeded: "Suddenly players could record gameplay movies, save games at any point, play online, alter graphics, load translation patches... The NES platform blossomed beyond the bounds of hardware, expanding its reach and capabilities past what Nintendo's engineers ever thought possible" [2:7]. Altice describes how it was these new tools that transformed the NES gaming scene—play became less isolated as games were translated, shared online, and played together. While console game modification was more complex than the shareware text-adventure games of the '70s and

'80s, emulation became central to how players engaged console games. Of course, in modern contexts, emulations of NES games remain the most popular way to play them—with Nintendo actively advertising its official emulation: the Nintendo Entertainment System database of classic games to Switch Online subscribers.

Importantly, emulation as a practice—that is, de(compiling) and modifying games—also has roots in the zine culture of wargaming and tabletop roleplaying communities from the 1960s into the late 1980s. Early wargaming and roleplaying scenes, which revolved around collectively-owned community zines, were deeply involved in Xerox and mimeograph networks: collective printing, scanning, copying, faxing, and circulation of magazines and print-and-play content. Analog game scholar Aaron Trammell documents the ways that early roleplaying hobbyists circulated games through communally-funded zines which (financed through subscription fees) would manage the printing and distribution of community-submitted content. As Trammell discusses, this was not a fundamentally for-profit endeavor but (like early digital games) involved the combinatory practice of making-and-playing with and for other members of the community. On the technical end, the zines which were foundational to the play of early roleplaying games (like *Diplomacy* and *Dungeons & Dragons*) were largely anthologized mimeographs of fan-made content submitted to zine editors. Like early digital games, then, early roleplaying games were likewise defined by emulation-as-play. While game historians rarely regard the Xeroxing, zine-making, and mail-distribution practices of roleplaying communities as part of the history of emulation—they exist hand-in-hand. The practices of distributing game code through zines drew directly from established practices among wargamers and roleplayers in the '70s.

I bring up this history of zines and shareware to call attention to the blurry history of duplicating games—of shareware and zine culture—that speculative design practices draw from. While the culture of game industry reductively frames games as bound ludic and material commodities [10], the games we play are always being duplicated and remade. As Altice writes:

> when we pay attention to the worldwide scope of platform adoption, the ebb and flow of life cycles through cloning and emulation, the communities that sustain hardware hacking and software modifications, and the vernacular histories of computing that resist simple linear definitions, we find that generational metaphors collapse. [2:199]

In many ways, we can understand the history of games as the history of shareware, emulation, and community practice. Zines and shareware represent an alternative understanding of game culture—mercurial, ever-shifting technologies warped through the duplicative play of game communities; a full collapse of the division between producer and participant as playing-and-remaking happen in synchronicity.

Anti-game jams on itch.io extend these historic zine movements. Soliciting games that devour other games, playtests and works-in-progress, experimental parodies, and more—these jams represent a coming-together of creative practitioners centered on making-and-breaking at once. Uninterested in the verity of finished products, anti-game jams center the *processes* of artists: encouraging reckless creation and submission. Fantasy console communities similarly pay homage to the traditions of play-as-emulation and zine culture. Bitsy games, for example, can be decompiled from their .html output file (exempting any hacks applied post-export). PICO-8's development tools, likewise, are bundled with a cartridge browser (called SPLORE) that contains the original .p8 file for each game it hosts—allowing players to decompile and remix one another's projects. While there are some paid PICO-8 games hosted on itch.io that do not have accompanying .p8 files, this is an overwhelming minority: fewer than 3% of the 7,419 games tagged "made with PICO-8" on itch are paid software as of this writing. In Bitsy's case, its legacy as shareware extends to the tool itself—which (as open-source software published to GitHub under the generous MIT License) has been forked and remade into extensive variations. PICO-8 fanzines, similarly, bear striking resemblance to early hobbyist magazines all the way down to printing line-by-line code for projects (Figure 4).

Echoing the practices of early text adventures circulated on ARPANET and the mimeographed zines of roleplaying enthusiasts, speculative game design movements celebrate the act of creation and see "games" as malleable experiences to be tinkered with, reimagined, and shared. In fact, the tagline for the PICO-8 fanzine series, printed on every cover, is "CODE-PLAY-SHARE-BE-THINK-DESTROY-LEARN-BREAK-LOVE-MAKE." This emphasis on process over product supports a vibrant culture of experimentation outside of industry contexts.

## 5 Beyond Hardware and Playability

Anti-games exist in defiance of the "shovelware" paranoia that became prominent following the mid-2010s "indiepocalypse." A term coined by game critics to highlight an alleged takeover of mainstream game markets by allegedly fake games—broken games, "asset flips" (which over-relied on prefabricated assets), porn games, and even malware-dressed-up-to-resemble-games—the "indiepocalypse" led game markets to crack down on so-called shovelware. This moral panic has followed increased public interest in game development as a mode of personal expression and the further democratization of game design tools, especially Twine [31, 54], Ren'Py [17, 53], as well as Bitsy and other fantasy consoles. Thanks to tools such as these, more folks are making games, and they are making them outside of industry contexts. Yet this expansion of game design communities has not come without backlash. In 2017, in response to the indiepocalypse outcry, Valve (which operates the ubiquitous marketplace for PC games, Steam) launched a crackdown on "fake games" in an attempt to weed out shovelware and asset flips. Yet Valve's policies were quickly revealed to be unwieldy to enforce; after all, many notable games—Nicoll & Keogh point specifically to *PlayerUnknown's Battlegrounds* [47] and *Getting Over It* [22]—rely on prefabricated assets or "crap game" aesthetics [3]. As Valve sought to delineate "fake" and "real" games, their attempt unsurprisingly caused collateral harm. For example, *Polygon* reporter Allegra Frank notes how *Wandersong* [36], a game with numerous awards and nominations at the 2019 Independent Games Festival, was flagged as a fake game and held under review by Valve for months after its launch, disabling in-game achievements and Steam features for any would-be players [23]. Valve's attempt to

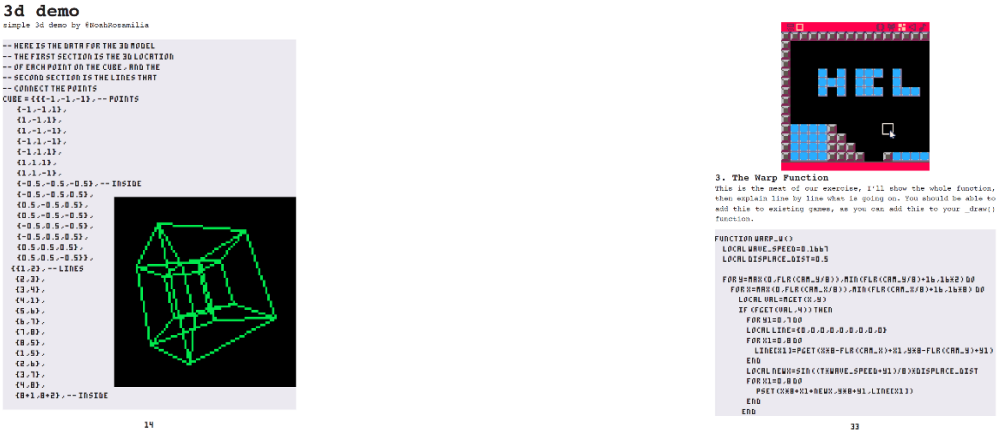


**Figure 4: Two pages from *PICO-8 ZINE #2* produced by members of the PICO-8 community and published at no cost to Itch.io by sectordub [57].**

reassert control over its marketplace meant enforcing fundamentally vague and arbitrary limitations on counted as a real "game" on Steam.

Anti-games respond to the prescriptive gavels of game markets, which seek to delineate which games are "real" and which are "shovelware" [16, 41], by soliciting and promoting games-that-are-not-games, games that are other things, and exploring what play art might look like beyond industry and market definitions. Jams on itch.io have always been harbors for unfinished, buggy, or outright obtuse projects (for example, I have discussed in previous work how itch.io zine-makers in the *MÖRK BORG* roleplaying game community would encourage first-time makers to participate by elevating "crap game" aesthetics—in some cases even ranking jam submissions based on the "number of fonts" used by designers and how "Yellow and/or difficult to read" submissions were [9]). Yet the emergence of anti-game jams represents a further step towards this radical accessibility through speculative design practice. Of the anti-game jams discussed previously, while many of the submissions came from established designers who took advantage of the opportunity to explore the more experimental ends of their practice, dozens of the projects submitted were the entries from new designers who had never posted to itch.io prior to the respective jam. Eschewing any concerns of playability both served as 1) a creative provocation for established designers, who used this as an opportunity to create avante-garde projects about the state of game art, violence, sex and kink, community, unfinished ideas, wishes, and dreams, and 2) a way of further lowering barriers to entries for novice designers, whose only criteria for participation was to create "Something small. Something weird," even if their submission should be "discarded, unfinished, dreamt but never written" [59]. In a time of alleged market saturation, mass layoffs, and escalating precarity for game developers, anti-game jammers celebrate opportunities to come together and share creative incitements without regard for the metrics of success or restrictions imposed by game markets.

It is likewise worth positioning fantasy consoles—as emulators—within a creative ecology of hacking, modding, and building fangames. While modding for PC games has received much popular and scholarly attention [26, 27, 54, 60, 63], modification of console games has often been overlooked as cheating or as a dangerous and illegal activity requiring third-party hardware to load and modify game files [2, 10]. Despite the alleged 'danger,' however, in competitive environments and among content creators, emulated, modded, and repackaged versions of Nintendo handheld and console games are often the only ways that these games are played. For example, scholars and archivists alike [10, 63] have noted the importance of *Project M* (Project M Dev Team, 2011)—a popular, competitive hack of *Super Smash Bros. Brawl.* to the history of competitive *Smash* tournaments. *Project M* is heralded as a fusion between *Brawl* and its predecessor, *Super Smash Bros. Melee* (which was especially popular in ultra-competitive scenes) and is still played in *Smash Bros.* tournaments. Other such tools, including Slippi (a rebalancing tool for *Melee* that allows for competitive play online) are likewise considered foundational to competitive formats [58]. The same is true of Nintendo's handheld consoles; while ROM hacks of *Pokémon* games from 1990-2010 have always been popular [2], there has been a recent trend among content creators to revisit newly modded versions of these classic *Pokémon* games, including randomizers (which shuffle what Pokémon and items the player encounters in each location) and fangames such as *Pokémon Emerald Rogue* [46]—a ROM hack that turns *Pokémon Emerald* (Nintendo, 2004) into a brutal and thrilling roguelike. Modding and emulating console games is crucial to the ways that player communities engage these technical systems. Yet over the last several years, game emulators have been subject to escalating legal aggression from game publishers: major emulators including Ryujinx, Yuzu (popular tools for emulating Nintendo Switch games) have been crushed by lawsuits or taken offline following legal interventions. Likewise, YouTubers, livestreamers, and content creators have been issued copyright strikes due to publisher suspicions that their playthroughs of games may have been run on emulated or

modified versions of games (even when creators have later proven this was untrue) [50, 70].

The increasing prevalence of both unofficial and official emulators (such as MAME cabinets and virtual consoles) further complicate "industry-centric game histories" of game computing. Yet "fantasy consoles" are emulators of developers' own ostensibly imagined referents. Similar to "reproduction consoles" (hardware imitations of retro consoles, often considered legally dubious), fantasy consoles collapse clear genealogies of technology: how can one 'emulate' a fantasy system that never existed? zep's suggestion, rather, is that *all* consoles are fundamentally "fantasies" and only some are instantiated as physical hardware:

> PICO-8 has everything else that makes a console a console: machine specifications and display format, development tools, design culture, distribution platform, community and playership. It is similar to a retro game emulator, but for a machine that never existed. PICO-8's specifications and ecosystem are instead designed from scratch to produce something that has its own identity and feels real [75].

Such an understanding of fantasy consoles threatens existing ontologies computing and commodity. While "console" has been widely associated with the physical hardware shipped by game companies since the release of the Magnavox Odyssey in 1972, the proliferation of PC and mobile gaming, cloud computing, reproduction and bootleg consoles [33, 34], controller modding [10, 68], circuit bending [77] all trouble the rigidity of consoles as fixed computational systems. What makes a console "real"? What does it mean that the PICO-8 emerged "from scratch" and also "never existed"?

After all, the relationship between PICO-8 and historic hardware systems is well-documented. In the same introduction to *PICO-ZINE #1*, zep discusses how systems like the Commadore 64 and Apple IIe influenced the development of the PICO-8. Specifically, zep points out that PICO-8 began as a "resurrection" of an earlier virtual machine, LEX500, which in turn was an homage to the Amiga 500 home computer and the BBC Micro (or "Beeb"). Fantasy consoles rely on retro game aesthetics, often require scripting in archaic languages (like BASIC), cater to outdated display sizes (usually 4:3 and 1:1), and center their technical specifications (such as sprite and memory limitations). The first section of PICO-8's homepage, for example, describes its specifications as having a "CPU" specification of "4M vm insts/sec." Of course, there is no discrete CPU for PICO-8; this rather represents the arbitrary speed limitations imposed upon the Lua virtual machine for executing instructions [71]. Importantly, PICO-8 is popular with ad-hoc console builders and reproduction console enthusiasts alike; the official lexaloffle homepage even specifies that PICO-8 player-makers need "Just Add Hardware" and that PICO-8 "will run on almost anything!" This proximity to hardware, however, is not ubiquitous across fantasy consoles. Bitsy, for example, includes no discussion of hardware in its documentation and rather positions itself as a web-based phenomenon, though it simulates arbitrary computational and aesthetic restrictions.

Fantasy consoles trouble existing game genealogies and ontologies alike; they are intended to "feel real" [75] and yet position themselves as fundamentally fantastic and ostensibly imaginary. The use of "fantasy" in "fantasy console," is deployed by community members and developers rhetorically to vacillate the proximity of fantasy consoles to commodified hardware systems. While neither Bitsy nor PICO-8 emulate commercial hardware (and even take care to distance themselves from proprietary systems), this aversion to branded content does not extend to developers who create games for these platforms. It's worth noting, for example, that an overwhelming majority of the most popular games on itch.io made with PICO-8 are "demakes" of known game franchises and titles. Demakes are reinterpretations of popular videogame titles within computational and aesthetic the limitations of older systems. These PICO-8 demakes include *POOM* by freds72, *Terra – A Terraria Demake* by cubee, *pico sonic* by komehara, *A Hat on Time* by eggnog, *Fuz* by Jusiv, *Low Mem Sky* by Liquidream, *Pico Night Punkin'* by Carson K., and countless other reimaginations of arcade classics and modern titles alike. Demake communities have existed for decades on spaces like the subreddit r/demake, yet fantasy consoles have reanimated demaking as a central part of their creative practice. itch.io user Kronbits hosted a "Demake JAM" in 2018, which garnered nearly 70 submissions and hundreds of participants—a vast majority of whom relied on fantasy consoles to build their projects. A curated list by community member pixelbath suggests over 84 demakes of popular games have been published to itch.io or lexaloffle.com as of this writing [45].

The PICO-8's tagline for fantasy consoles—"like a regular console, but *without the inconvenience* of actual hardware"—illustrates the speculative project of fantasy console developers: the "inconvenience" here is not merely material but reflects an evasion of commodification and potential legal implication. In a time when game publishers have cracked down on emulated games and developers through legal strongarming, fantasy console communities remain (at present) a relatively safe place for making-and-playing with emulation, retro fangaming, and "demakes." Yet this position is precarious, and thus developers and enthusiasts regularly insist that these consoles and their projects are imagined, unreal, or otherwise speculative.

## 6 CONCLUSION: SPECULATIVE GAME DESIGN AND UNENCUMBERED PARTICIPATION

Anti-game jammers and fantasy console enthusiasts illuminate the possibilities of speculative game design. Their practices—while niche and precarious—advance a new imaginary for game creation that is uniquely accessible to newcomers, highly experimental, and resistant to the commodified logics of game industries. By eschewing the "inconveniences" of hardware and playability, speculative design communities emphasize making, creative ignition, and unencumbered participation. In the call for submissions for "Lost, Broken, Unplayable~," snow implores participants to "share what we desire and dream of so that everyone can dream something new" [59]. Scholars have argued that zine subcultures can create "low-barrier" environments for player-makers that encourage newcomers and maintain an "everything counts" ethos that rejects the meritocratic dynamics of many development spaces [3, 9, 15]. Yet anti-game jams take this dynamic further: by soliciting games-are-not-games, jammers at once welcoming participation from those

who may not even consider themselves designers and encourage established makers to push the limits of their practice without regard for the usual constraints of commodification or even playability. As radical making spaces, anti-game jams upheave commodity-fetishism by defying playability—creating without being subject to technocultural enforcement by the apparatuses that govern what is and is not a real or playable game. At the same time, fantasy console developers turn to fictive machines, imagined and arbitrary hardware, and communally-set constraints to expound their creative practice. Disinterested in the commodification of hardware and distribution and (largely) even in profit, fantasy console communities instead create emergent challenges for makers—to reimagine beloved titles and tell personal stories with tiny tools, 8-bit palettes, and extreme limitations. Tools like Bitsy and PICO-8, imagine the "console" not as a black-box system or proprietary engine, but an infinitely hackable platform for community and emergent creative challenge.

This shift towards the speculative comes amid a time of tremendous upheaval in mainstream game development colored by sustained tension between makers and publishers looking to further commodify tools. In 2023, the massively popular engine Unity "unit[ed] the indie game industry" in outrage following the announcement of pricing changes which would have included per-installation developer fees [42]. While Unity ultimately backpedaled many of the most egregious aspects of its pricing change, this was seen as an enormous betrayal of its user community. The irony here is that Unity has historically been perceived as an accessible tool for novice game developers. As Nicoll & Keogh describe:

> There are multiple theories explaining Unity's rapid ascension to a quasi-monopolistic dominance, but one, perhaps under-acknowledged explanation is that the company has leveraged the symbolic power of democratization at a time when developers face increased vulnerability and precarious-ness because of, for example, the erosion of state welfare [41:108]

This to say, Unity's rhetoric of democratizing game design was underwritten by its capitalist investment in attracting active users and escalating its control over the platform ecosystem. Nicoll & Keogh go on to cite designer Robert Yang's manifesto, "KILL UNITY; WE ARE ENGINES" in which Yang argues that "No one way of making and doing cultural work should have such a monopoly and stranglehold on an entire creative community" [74]. Unity has relied on an ethos of being an accessible and modular engine for game design, only to aggressively attempt to recapture play and recenter their own economic dominance as a game platform.

Unity's attempt to squeeze developers for royalties from "verified installations" is but one example of the ways game industries are caught in the continued capitalization of platform economies. Game tools continue to migrate towards "ur-platform" models and increasingly ubiquitous engines [41, 62]. Nintendo maintains a viciously litigious position against fans who modify its games, Valve polices "fake games" on its marketplaces, Epic Games steers game design programs to adopt its proprietary *Fortnite Creative* tools. As game companies grow in scope, financial reach, and cultural power, they have turned towards increasingly aggressive anti-developer, anti-player measures that have left a psychic scar on development communities.

The reactionary positions of these companies stem from their capitalist investments in maintaining play as a "black box commodity fetish" that upholds a consumerist position of buying Official Games™ from Official Markets™ to be played on Official Hardware™ [10]. This perspective is what Stephanie Boluk and Patrick LeMiuex describe as the "standard metagame," in which we—as player-consumers—are led to assume that "videogames should be executed on approved hardware platforms. . .experienced by a normative binocular, bidextrous, bipedal body performing freely and without distraction; enjoyed for their own sake and without recourse to outside elements; and completed according to their intended design [10:280]. We are surrounded by the discourse of the standard metagame, which upholds the game as a precisely bounded material entity (both as commodity and technology), sustained by licenses, verified installations, first-party hardware—*the game as it was meant to be played.*

Yet speculative game design communities have emerged in response to these very conditions: the continued 'community-washing' of toxic business practices and corporate grind culture [14, 41] as well as record-breaking profits among industry-wide layoffs, harassment, and union-busting practices [13]. Speculative game design is rooted in a new creative imaginary, one that destabilizes the standard metagame and threatens corporate taxonomies of "original," "valuable," and "approved" ways to play. Game designers produce "unplayable" anti-games that refuse ludic engagement. Such experimental works convey affective gravity and artistic intention even as they defy commodification and even use. Anti-game designers find playful making to be itself a site of political resistance: creating alienating anti-games that incite play outside of industry contexts. Through jams, these communities create niche, ephemeral spaces of creative community that are disinterested in upholding cultural values of game commodity or even playability. In their radical jamming, anti-game makers seek not only to distance themselves from mainstream markets and the hypercapitalism of the "standard metagame," but to vitiate "game" entirely as a viable category for their play art.

Similarly, what becomes of games that have been "demaked" for play on fictive consoles? Fantasy emulation—extending the legacy of shareware and free-and-open-source software movements—represents a profoundly anti-capitalist response to the monopolistic behaviors of game publishing institutions. The legal, discursive, and technological labor involved in maintaining fantasy emulation illustrates how, as James Muldoon writes in *Platform Socialism*, "technology can either be controlled by private companies and used to generate profit for the few, or it can be directed by communities to benefit the many" [40]. Fantasy console enthusiasts share projects and tools through zines, cart-swaps, jams, hacks, and forks. These communities illustrate the potential of platform cooperatives and user ownership of digital design tools.

Speculative design practices allow developers to envision and participate in a post-capitalist imaginary of hardware, software, and play—an imaginary where the tools belong to the makers and the cultural values of game markets lose their hold. Importantly, anti-game jamming and fantasy console development are not salvational practices; they emerge from ephemeral creative scenes built

on largely unremunerated community organization and creative labor. Yet these practices illuminate how designers continue to organize creative work outside industry contexts, around communally negotiated values of accessibility, user ownership, artistic process, and unencumbered participation. Speculative game design practices are, indeed, fantastic and anti-gamic, and therein lies their potential as means of radical making.

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